## ABSTRACT

The present invention provides a method for changing production ratios of carotenoid compounds in a process of microbiological production of a plurality of carotenoid compounds. By controlling the concentration of dissolved oxygen in the culture during cultivation, production ratios of carotenoid compounds such as astaxanthin, adonixanthin,  $\beta$ -carotene, echinenone, canthaxanthin, zeaxanthin,  $\beta$ -cryptoxanthin, 3-

hydroxyechinenone, asteroidenone and adonirubin, are changed.